

AMENDMENTS TO CLAIMS

Please amend the claims as indicated hereinafter.

1–85. (Canceled)

86. (Currently Amended) A method for measuring client-side performance, the method comprising the steps of:

at an intercepting process executing on either an intercepting device or a server device:
intercepting an item that is in transit from a server process to a client device, prior to the arrival of the item at the client device;
wherein the server process is a process, other than the intercepting process, executing at the server device;
based on the item, generating a modified item by modifying the item to include code which causes one or more processors on the client device to perform the steps of:
measuring performance related to a service associated with the item; and performing one or more acts based on a measurement resulting from said step of measuring performance; and sending the modified item to the client device;

wherein the one or more acts based on a measurement resulting from said step of measuring performance comprise:
recording data indicating the measurement in a cookie; and
sending the cookie to at least one of the server device or the intercepting device;
wherein sending the cookie to at least one of the server device or the intercepting device occurs without a user at the client device requesting a new item.

87. (Currently Amended) ~~The A~~ method for measuring client-side performance, the method comprising the steps of ~~Claim 86~~:

at an intercepting process executing on either an intercepting device or a server device;
intercepting an item that is in transit from a server process to a client device, prior
to the arrival of the item at the client device;
wherein the server process is a process, other than the intercepting
process, executing at the server device;
based on the item, generating a modified item by modifying the item to include
code which causes one or more processors on the client device to perform
the steps of:
measuring performance related to a service associated with the item; and
performing one or more acts based on a measurement resulting from said
step of measuring performance; and
sending the modified item to the client device;
wherein measuring performance related to a service associated with the item comprises
measuring a number of events, the events including at least a plurality of cursor
events, focus events, or change events.

88. (Currently Amended) The A method for measuring client-side performance, the method
comprising the steps of Claim 86.;

at an intercepting process executing on either an intercepting device or a server device;
intercepting an item that is in transit from a server process to a client device, prior
to the arrival of the item at the client device;
wherein the server process is a process, other than the intercepting
process, executing at the server device;
based on the item, generating a modified item by modifying the item to include
code which causes one or more processors on the client device to perform
the steps of:
measuring performance related to a service associated with the item; and
performing one or more acts based on a measurement resulting from said
step of measuring performance; and
sending the modified item to the client device;

wherein the one or more acts based on a measurement resulting from said step of measuring performance comprise:
determining that a measured performance is below a threshold of minimum performance;
in response to determining that the measured performance is below a threshold of minimum performance, sending a request to either the server device or intercepting device for a revised item;
receiving the revised item.

89. (Previously presented) The method of Claim 88, wherein the threshold of minimum performance is associated with a maximum acceptable response time.

90.-91. (Canceled)

92. (Currently Amended) The method of Claim 9086, wherein the one or more acts based on a measurement resulting from said step of measuring performance further comprise:
requesting an image file from one of the intercepting device or the server device;
wherein sending the cookie to at least one of the server device or the intercepting device occurs as a consequence of requesting the image file from one of the intercepting device or the server device.

93. (Previously presented) The method of Claim 92, wherein the image file is an image file with no data.

94. (Previously presented) The method of Claim 92, wherein the code causes performance of the act of requesting an image file from one of the intercepting device or the server device in response to detecting that the item is completely loaded in a client process at the client device.

95. (Previously presented) The method of Claim 86, wherein the one or more acts based on a measurement resulting from said step of measuring performance comprise reporting the

measured performance to one of the server device or the intercepting device, the method further comprising:

correlating the measured performance at the client device with one or more metrics of server side performance.

96. (Previously presented) The method of Claim 86, further comprising prior to intercepting the item in transit, at the intercepting process:

intercepting an initial item in transit from the server process to the client device, prior to the arrival of the initial item at the client device; based on the initial item, generating a modified initial item by modifying the initial item to include initial code which causes one or more processors on the client device to perform the step of: recording a time at which the client device requests the item; sending the modified initial item to the client device.

97. (Previously presented) The method of Claim 96, wherein recording the time at which the client device requests the item occurs in response to a user at the client device selecting a control that links to the item.

98. (Currently Amended) ~~The A method for measuring client-side performance, the method comprising the steps of Claim 96, wherein the initial item is the item, wherein the initial code further causes the one or more processors on the client device to perform the steps of:~~

~~at an intercepting process executing on either an intercepting device or a server device:~~
~~intercepting an item in transit from the server process to the client device, prior to the arrival of the item at the client device;~~
~~based on the item, generating a modified item by modifying the item to include initial code which causes one or more processors on the client device to perform the steps of, while loading the modified initial item:~~

determining that the client device does not store data indicating a request time for the ~~initial~~-item, the request time being a time at which the ~~initial~~-item was requested;
in response to determining that the client device does not store data indicating a request time for the ~~initial~~-item, constructing a page to be loaded at the client device in place of the modified ~~initial~~-item, said page being different than the modified ~~initial~~-item, wherein the page includes code that causes the one or more processors on the client device to perform the steps of:
automatically requesting the item from one of the server device or the intercepting device;
recording data indicating a time at which the item was requested.

99. (Previously presented) The method of Claim 96, wherein the initial item is the item, and wherein the method further comprises:

prior to intercepting the item in transit, at the intercepting process:
determining that the client device does not store data indicating a request time for the initial item, the request time being a time at which the initial item was requested;
wherein modifying the initial item comprises replacing at least some of the content of the initial item with place-holding content, wherein the modified initial code further causes the one or more processors on the client device to perform the steps of:
automatically requesting the item from one of the server device or the intercepting device;
recording data indicating a time at which the item was requested.

100. (Previously presented) The method of Claim 96, further comprising:
at the intercepting process:

determining a percentage of total items sent to the client process that are to be modified; and

determining, based upon the percentage of total items sent to the client process that are to be modified, that one of the item or the initial item is to be modified;

wherein modifying the item occurs in response to determining, based upon the percentage of total items sent to the client process that are to be modified, that one of the item or the initial item is to be modified.

101. (Previously presented) The method of Claim 86, further comprising:

at the intercepting process:

determining a percentage of total items sent to the client process that are to be modified; and

determining, based upon the percentage of total items sent to the client process that are to be modified, that the item is to be modified;

wherein modifying the item occurs in response to determining, based upon the percentage of total items sent to the client process that are to be modified, that the item is to be modified.

102. (Previously presented) The method of Claim 86, wherein:

the item is an item in a frameset; and

the steps of measuring performance related to a service associated with the item and performing one or more acts based on a measurement resulting from said step of measuring performance occur in response to determining that all other items in the frameset have been loaded.

103. (Previously presented) The method of Claim 86, further comprising the steps of:
receiving, over a network, data indicating the measurement from the client device;
determining whether the data indicates performance has fallen below a threshold; and
if the data indicates performance has fallen below the threshold, then sending a notification message.

104. (Previously presented) The method of Claim 86, said step of performing one or more acts based on the measurement further comprising:

determining whether the measurement indicates performance has fallen below a threshold; and

if the measurement indicates performance has fallen below the threshold, then sending a notification message.

105. (Previously presented) The method of Claim 104, said step of sending a notification message comprising sending the notification message to an administrator for a server device associated with said service.

106. (Previously presented) The method of Claim 104, said step of sending a notification message comprising sending the notification message to a user of the client process.

107. (Previously presented) The method of Claim 86, wherein the measurement is a client response time between a first time when a user of the client device requested the item and a second time when the modified item is fully rendered on the display of the client device.

108. (Previously presented) The method of Claim 86, wherein:

the code further causes the one or more processors on the client device to perform the step of collecting ancillary information relating to one or more components of the client process that participate in obtaining the service from the application; and said step of performing one or more acts based on the measurement includes correlating the measurement with the ancillary information.

109. (Previously presented) The method of Claim 86, after said step of intercepting the item and before said step of modifying the item, further comprising the steps of:

determining a type associated with the item produced by the application; and determining whether to perform said step of modifying the item based on the type of the item.

110. (Previously presented) The method of Claim 86, after said step of intercepting the item and before said step of modifying the item, further comprising the steps of:

determining a unique reference associated with the item produced by the application; and
determining whether to perform said step of modifying the item based on whether the unique reference matches a particular reference.

111. (Previously presented) The method of Claim 86, wherein:

the item to be sent to the client device is stored in a cache before the item is sent to the client device;

said step of intercepting the item comprises accessing the item in the cache; and
said step of sending the modified item to the client device comprises replacing the item in the cache with the modified item.

112. (Previously presented) The method of Claim 111, wherein the cache is on the server device.

113. (Previously presented) The method of Claim 111, wherein the cache is on a proxy server for the client process.

114. (Previously presented) The method of Claim 86, wherein the item includes hypertext markup language (HTML) statements.

115. (Previously presented) The method of Claim 86, wherein the code comprises javascript statements.

116. (Previously presented) The method of Claim 86, wherein the code comprises a Java applet.

117. (Previously presented) The method of Claim 86, wherein the code comprises an ActiveX module.

118. (Previously presented) The method of Claim 86, wherein the client device comprises a web browser at which the item is received and at which the code is executed.

119. (Previously presented) The method of Claim 86, further comprising the steps of:
receiving, over a network, data indicating the measurement from the client device;
determining whether the data indicates a performance problem, the performance problem being that performance has fallen below a threshold; and
if the data indicates performance has fallen below the threshold, then, based at least on the data and one or more metrics of server-side performance, determining whether the performance problem is attributable to the server device, or one of the client device and a network connected the client device to the server device.

120. (Withdrawn) A method for measuring client-side performance, the method comprising the steps of:

receiving, at a server device, from a client device, data indicating that the client device has experienced poor performance with respect to an item requested by the client device;

in response to receiving the data:

generating a revised item based on the item.

121. (Withdrawn) The method of Claim 120, wherein the data indicating poor performance in relation to an item requested by the client device indicates a measurement of performance taken at the client device, the method further comprising:

determining that the measurement of performance is below a minimum threshold.

122. (Withdrawn) The method of Claim 121, wherein the measurement of performance is a client response time between a first time when a user of the client device requested the item and a second time when the modified item is fully rendered on the display of the client device.

123. (Withdrawn) The method of Claim 121, wherein the measurement of performance is a number of cursor events that have occurred since the item was fully rendered on the display of the client device.

124. (Withdrawn) The method of Claim 120, wherein the data indicating poor performance in relation to the item requested by the client device is data indicating that the client device considers a measurement of performance taken at the client device to be below a minimum threshold.

125. (Withdrawn) The method of Claim 120, wherein the revised item is a smaller version of the item.

126. (Withdrawn) The method of Claim 120, wherein the revised item is a simpler version of the item.

127. (Withdrawn) The method of Claim 120, further comprising communicating the revised item to the client device.

128. (Withdrawn) The method of Claim 120, wherein generating a revised item based on the item and communicating the revised item to the client device occur further in response to:

determining that a certain percentage of client devices in a set of client devices, the set of client devices including the client device, also have experienced poor performance with respect to the item.

wherein certain percentage exceeds some minimal threshold.

129. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 86.

130. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 87.

131. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 88.

132. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 89.

133.–134. (Canceled)

135. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 92.

136. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 93.

137. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 94.

138. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 95.

139. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 96.

140. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 97.

141. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 98.

142. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 99.

143. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 100.

144. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 101.

145. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 102.

146. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 103.

147. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 104.

148. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 105.

149. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 106.

150. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 107.

151. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 108.

152. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 109.

153. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 110.

154. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 111.

155. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 112.

156. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 113.

157. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 114.

158. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 115.

159. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 116.

160. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 117.

161. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 118.

162. (Previously presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 119.

163. (Withdrawn) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 120.

164. (Withdrawn) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 121.

165. (Withdrawn) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 122.

166. (Withdrawn) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 123.

167. (Withdrawn) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 124.

168. (Withdrawn) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 125.

169. (Withdrawn) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 126.

170. (Withdrawn) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 127.

171. (Withdrawn) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 128.

172. (New) The method of Claim 98, further comprising the steps of, at the intercepting process, after sending the modified item:

 sending a second item to the client device;

 wherein the second item is the item;

 wherein the second item is responsive to the client device, based on the code in said page, performing the step of automatically requesting the item from one of the server device or the intercepting device;

 wherein the second item includes code which causes one or more processors on the client device to perform the steps of:

based on the recorded time, measuring performance related to a service associated with the item; and performing one or more acts based on a measurement resulting from said step of measuring performance.

173. (New) The method of Claim 98, wherein determining that the client device does not store data indicating a request time for the initial item comprises determining that the client device does not store a cookie for an application at the server device from which the initial item originated and in which the data indicating the request time for the initial item is stored.

174. (New) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 172.

175. (New) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 173.